HOLE NO: CW-81-2 LOCATION: SE 1/4, NW 1/4 Section 33, T 13 N, R 13 W, Tyonek (A-5) Quadrangle, Alaska STRENGTH PARAMETERS COLLAR ELEVATION: 450 m (1,475 ft) DISCONTINUITIES Moisture Content Point Load I_c (50) Pocket Bedding Break Uniaxial % Dry Weight Penetrometer Separations Compressive Strength (MPa) ft m min avg max Lithologic Description m ft Graphic Log No recovery zone; organic material and ash beds from pit dug nearby 5 - A ΔΔ EXPLANATION No intact core recovery but fragments suggest primarily metamorphic pebbles in -10 a silt and sand matrix Lithologic Symbols - 15 15-Sandstone, light-olive-gray (5Y 5/2) to medium-gray (N5); very finely laminated; very fine grained; silty; thin ash layer(?) at 5.65 m (18.5 ft) Sandstone, medium gray (N5); very fine grained Interbedded coal and claystone - 25 Claystone, medium-dark-gray (N4) to medium-gray (N5); massive; zones of coaly fragments and very fine grained sand (blocks denote carbonaceous zones) Siltstone Claystone, light-olive-brown (5Y 5/6); very silty (blocks denote carbonaceous zones) -40 Sandstone Claystone, olive-gray (5Y 4/1) to medium-gray (N5); finely laminated; silty - 45 Diamicton -50 Claystone, dark-gray (N3); finely laminated; carbonaceous - 55 Claystone, medium-gray (N5) to dark-gray (N3); fine to obscurely laminated; carbonaceous; occasional coal fragments along apparant fractures near -60 No recovery zone 60 -65 20----70 1 B 2 6 12 Explanation of notation of the discontinuities (after Rankilor, 1974) 5 4 一 75 Coal, "M bed", black (N1) to dark-yellowish-brown (10 YR 4/2); finely laminated; bedding dips approximately 25° from the horizontal with dominate fractures nearly vertical with respect to the core barrel or 65° --80 with respect to the bedding plane; coal broken in places into planes and 80minimum separation and in other places as cubes; high-angle fractures noted in broken areas; 10 10 10 of bedding breaks in cms.
ie the smallest pieces
were 3 cm. long interbeds of carbonaceous claystone at 23.1 to 23.3 m (75.7 to 76.4 ft), - 85 25.9 to 26.2 m (85.0 to 86.0 ft), and 31.9 to 32.0 m (104.5 to 105.1 ft), grayish-brown (5YR 3/2) to dark gray (N4) --- 90 90 — **-** 95 largest dimension of the largest broken piece in cms. ie the largest fragment was approx. 2cm. across. 100strata broken into non-cylindrical -105 fragments 105typical dimension of by convention zero most of the broken 8 3 5 6 pieces in cms Interbeds of coal and carbonaceous claystone, dusky-yellowish-brown (10YR 2/2) **−**115 **−**35 to grayish-black (N2) Claystone, dusky-yellowish-brown (10YR 2/2) to grayish-black (N2) Coal, black (N1); finely laminated with clay and coaly breccia along fractures --120 Claystone, medium-dark-gray (N4) to medium-gray (N5); carbonaceous with non-² Strength Parameters carbonaceous zones at 37.0 to 37.4 m (121.4 to 122.7 ft) and 38.1 to 38.4 m (125.2 to 126.0 ft) -125Point load results corrected to a reference diameter of 50 mm 125 — — — — -(Broch and Franklin, 1972). -130 x - diametral test Claystone, medium-gray (N5); massive; silty o - axial test; failure along slip plane Sandstone, fine-grained; friable from 40.8 to 41.0 m (133.9 to 134.9 ft); very • - axial test; failure complete and parallel to load -135 firm from 40.8 to 41.1 m (133.6 to 134.8 ft) and strongly reactant to 0.1 M HCL in this zone Approximate uniaxial compressive strength calculated by multiplying I_s (50) x 24 (Broch and Franklin, 1972). 140 Sandstone, fine- to medium-grained; friable; strongly reactant with HCL 140 -Pocket penetrometer results are correlative to the approximate uniaxial compressive strength values. -145 All > • characters indicate that the material tested was beyond 145the range of the pocket penetrometer No core recovery, but from cuttings and from the geophysical logs the material ---150 appears to be a very friable fine- to coarse-grained sandstone -155155-<u></u>160 l 160--165Sandstone, pale-olive (10Y 6/2); fine- to medium-grained, angular grains; well cemented; very fine pebbles from 50.4 to 50.5 m (165.4 to 165.7 ft); strongly reactant to HCL ---170 L No core recovery, but cuttings and pulled plugged bit show the material to be -175 medium-to coarse-grained sandstone with small milky quartz pebbles; noncalcareous; non indurated Claystone, medium-dark-gray (N4) to medium-gray (N5) -185Claystone, olive-black (5Y 2/1) to olive-gray (5Y 4/1) to dark-gray (N3); finely laminated; occasional coaly lenses approximately 1 cm in thickness ---190 **-**-195 Coal, blackish-brown (5YR 2/1); with interbeds of carbonaceous claystone; top 60-4 5 6 _200-Coal, black (N1) to blackish-brown (5YR 2/1); high-angle fractures from 60.8 to 61.3 m (199.5 to 201.2 ft); coal below fractured zone is competent -205 205-Interbedded coal and carbonaceous claystone, brownish-black (5YR 2/1); very finely laminated Claystone, light-brownish-gray (5YR 6/1); coal fragments along apparent fractures Claystone, dark-yellowish-brown (10YR 4/2); very finely laminated; -215 carbonaceous; weak reaction to HCL Interbedded coal and claystone, brownish-black (5YR 2/1) -220 Coal, black (N1); claystone interbeds Claystone, brownish-gray (5YR 4/1); very finely laminated -225Coal, brownish-black (5 YR 2/1); claystone interbeds -230 - 70Coal, black (N1); fractures have slickensides along slip planes Coal, black (N1); high-angle fractures and broken zones 20 | 25 -235235-B 70 70 10 Interbedded coal and carbonaceous claystone, light-brownish-black (5YR 3/1) B 5 10 Coal, black (N1) -245 Claystone, medium-gray (N5); silty; wavy laminations Siltstone, medium-dark-gray (N4); finely laminated; carbonaceous -250Coal, black (N1); bottom of "O bed" ⊢255 → Claystone, medium-dark-gray (N4) to dark-gray (N3); massive; silty Claystone, dark-gray (N3); carbonaceous with wavy carbonaceous stringers and ---260 Claystone, medium-gray (N5) to medium-dark-gray (N4); silty Claystone, medium-gray (N5) to medium-dark-gray (N4); contorted laminae; -265 265 Claystone, medium-gray (N5) to medium-dark-gray (N3); becomes increasingly 270 silty downwards Siltstone, olive-gray (5Y 4/1) to medium -gray (N5); finely laminated; carbonaceous zones from 82.6 to 83.1 m (271.0 to 272.6 ft) and 83.7 to -27584.1 m (274.6 to 275.9 ft) Claystone, olive-black (5Y 2/1); finely laminated; carbonaceous --280∤ Claystone, olive-gray (5Y 4/1) to medium-dark-gray (N4); very hard tuffaceous zone from 85.9 to 86.0 m (281.8 to 282.3 ft), pale-yellowish-brown (10YR -285Claystone, medium-light-gray (N6) to medium-dark-gray (N4); occasional ---290 carbonaceous stringers; 2 mm offset at 89.9 m (295.0 ft) 6 3 -295 ---90 295-90— 5 8 **—**300 Siltstone, medium-light-gray (N6); massive; clayey 4 6 15 300----305B 3 8 15 Claystone, brownish-black (5Y 2/1); carbonaceous; becomes siltier and less carbonaceous downwards carbonaceous downwards --310 Claystone, brownish-black (5Y 2/1); carbonaceous Sandstone, medium-gray (M5); fine- to coarse-grained; occasional carbonaceous -315 stringers 315 B 4 10 320 Coal, black (N1); "Q bed"; broken 320--325 Claystone, medium-dark-gray (N4); carbonaceous -330 Siltstone, medium-dark-gray (N4); finely laminated; fine- to medium-grained sandstone at base -335